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**POSITION:** Postdoctoral Appointee – Informatics & Complex Systems Research

**JOB ID:** 62808

**MANAGER:** Heidi Ammerlahn

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Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. We are a world-class team of scientists, engineers, technologists, postdocs, and visiting researchers—all focused on cutting-edge technology, ranging from homeland defense, global security, biotechnology, and environmental preservation to energy and combustion research, computer security, and nuclear defense. To learn more, visit <http://ca.sandia.gov/casite/>.

### DEPARTMENT DESCRIPTION

The Informatics and Decision Sciences Department at Sandia National Laboratories in Livermore, California develops new algorithms, theory, and software in machine learning, matrix and tensor methods, information retrieval, data mining, complex systems modeling and analysis, and related areas. We deal with large-scale, complex, real-world problems that require innovative, but realistic solutions, often utilizing advanced hardware platforms. The work of the department impacts a wide variety of applications in national security, engineering, energy, computational biology, systems studies, and other areas.

### JOB DESCRIPTION

We have multiple openings for postdoctoral researchers in informatics and data mining, numerical algorithms for simulations, and/or computational mathematics for complex systems. Our staff members are expected to conduct innovative research, publish and present results in refereed journals and conferences, develop open-source software, and seek out new and interesting problems of national importance.

### QUALIFICATIONS

PhD in computer science, applied mathematics, operations research, statistics, or related area is required for this position, as is a strong record of academic performance. Candidates must be able to work in a collaborative research environment and must provide evidence of relevant research expertise in the form of technical publications, presentations, software, and/or knowledge of applications. Other required qualifications include software development competence in a compiled and/or object-oriented languages (e.g., C++, Java, etc.); proficiency in solving problems, prioritizing work, and making decisions; and excellent written- and oral-communication skills.

Expertise in one or more of the following areas is desired for this position: scientific computing, graph analysis, linear algebra, machine learning, game theory, statistics, numerical analysis, optimization, computational combinatorics, data mining, mathematical physics of complex systems, information theory, decision theory, data fusion, and systems modeling. Other desired qualifications include a background in solving practical problems in science and engineering; encounters with real-world data; and proficiency in software engineering, especially an understanding of object-oriented programming techniques and best practices, high-performance computing experience, and/or SQL database knowledge.

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